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**iM3 42-12** © iM3Inc

# Veterinary Dental Scaler



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## Instruction Manual

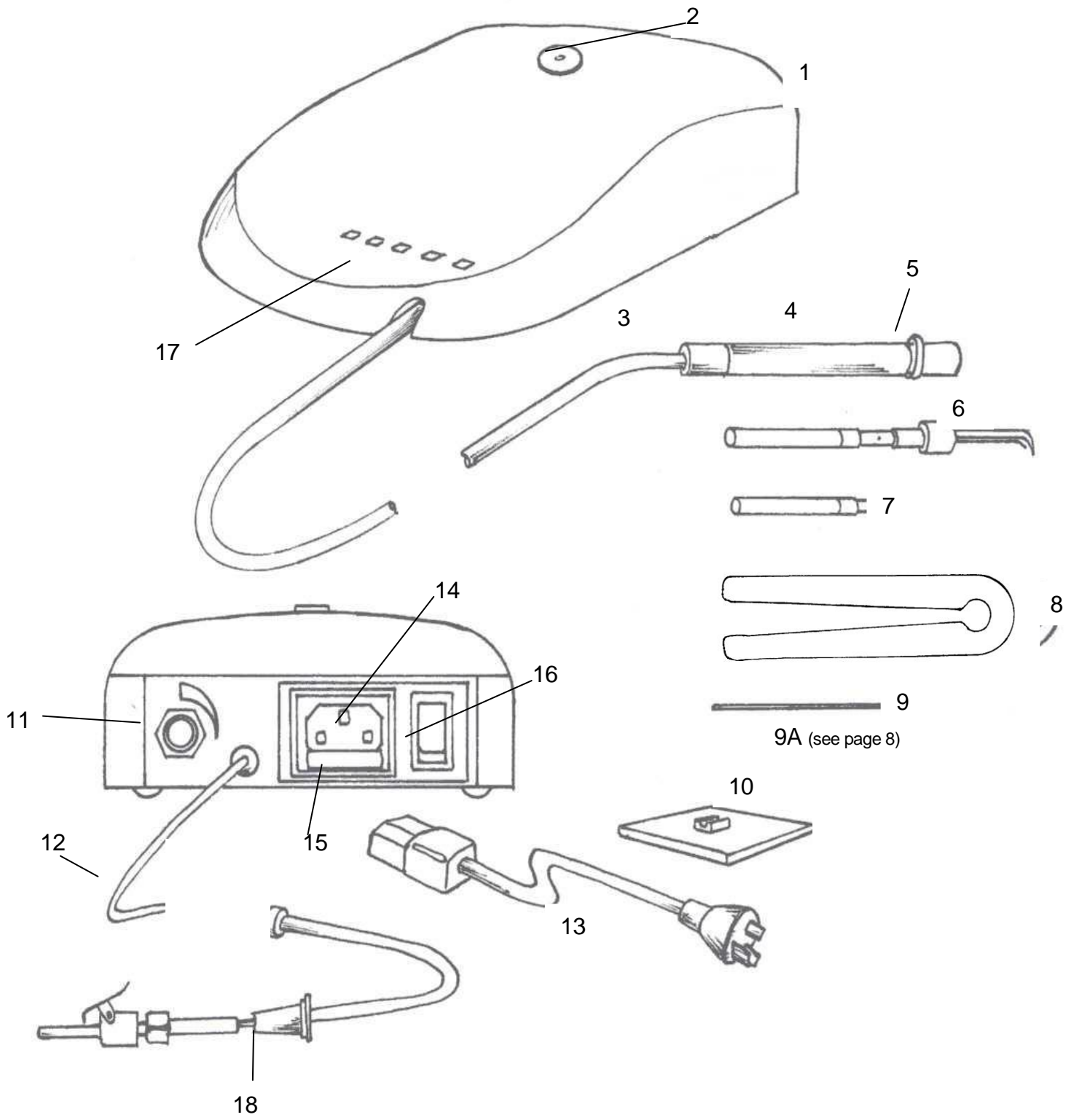
The 42-12 is a 'State of the Art' Scaler. The unique Titanium Scaler tips, high operating frequency (42,000Hz), with their circular tip movement, (with a very small amplitude 0.01 – 0.02mm), produces a truly unique instrument. It not only scales in half the time of conventional "Jack Hammer" scalers, but also produces less enamel damage due to its circular tip movement. It can also scale sub-gingival pockets safely to a depth of 12mm – hence the name 42-12.

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# 42-12 Scaler Unit Components



9A (see page 8)

## **Components of the iM3 42-12 Scaler Unit:**

- 1) Control Center
- 2) Power adjustment contact
- 3) Handpiece tubing with connector #O6950
- 4) Handpiece AUS #O6900 US #O1002
- 5) Control On/Off switch ring
- 6) Tip Insert- see p8
- 7) Ferrite Rod (Stack) AUS #O6860 US #O1291
- 8) Rod Pliers AUS #O6882 US #O1295
- 9) Steel Pin AUS #O6880 US #O1293
- 9a) Ferrite Rod Holder AUS #O6865 US #O1292
- 10) Corian Handpiece Holder AUS #O6925 US #O8000
- 11) Coolant flow control needle valve #I6780 US #P7056
- 12) Coolant supply tube (water or CLS), maximum 3 bar #O6930
- 13) Power Cord 110/240V AUS #06910 US #O2197
- 14) Power Cord Socket, power consumption 20 watts
- 15) Fuse Holder with spare fuse – Fuse Slow Blow 400mA 250V #O6891
- 16) On/Off Mains Power Switch
- 17) Power setting display Lights
- 18) Coolant Filter #W0530 US #P7235

### **The iM3 42-12 comes with 2 tip inserts.**

1. A Universal Tip approximately 12mm (1/2") long and US #O0809
2. A Perio Tip 18mm (3/4") long. See p8 for tips US #O0806

### **Each unit is supplied with all of the above**

#### ***Optional extra:***

A Beaver Tail (Standard Straight) is available for gross debridement  
US #O0805

## **A. GETTING STARTED**

### Control Box:

1. Insert the power cord into the rear of your unit (14). The unit automatically adjusts to either 110V or 240V AC.
2. Connect the coolant supply tube to your coolant supply – Pressure should not exceed 3 BAR (40 psi). A pump up pressure tank is also available.

## **B. HANDPIECE AND TIP INSERT**

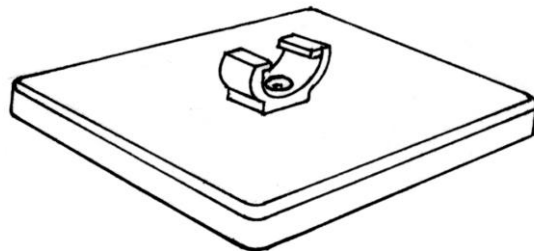
1. Connect the handpiece tubing (3) with the rear of the handpiece (4)
2. Insert an instrument tip (6) into the handpiece with a twisting motion until fully seated.

## **C. CORIAN HANDPIECE HOLDER**

1. This holder is designed to reduce Stack (7) breakage by preventing the Handpiece accidentally falling on the floor this usually occurs when the Handpiece is placed on the table while adjusting the animal's head. Position the Corian Handpiece Holder right at the animals head, and make a habit of every time you put the Handpiece down, place it in the holder. It will help reduce accidental stack breakage.
2. The iM3 2000 Professional Dental Unit has a handpiece holder on the front for the 42-12.

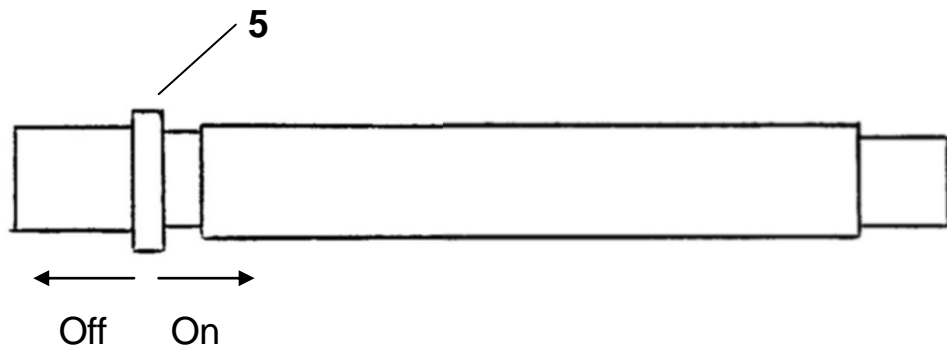
## **D. POWER SETTINGS**

1. The Actual power setting (17) can be seen through the Top of the Control Box. One light indicates lowest power and five lights indicate maximum power. A touch on the power adjusting spot (2) will alter the power setting. One light (minimum power) is approximately 25% of maximum power. Normal scaling is 2 or 3 lights illuminated.



## **E. OPERATION**

1. The 42-12 is turned on or off at the rear of the Control Box (16). When 'On', the switch will be illuminated red. The Power lights will also be illuminated.
2. The Handpiece tip is activated by sliding the silver control ring (5) to the 'ON' position (away from the instrument tip), causing the tip to vibrate and the coolant to flow. Make sure the adjusting knob on the coolant valve (11) is turned anti-clockwise to allow the coolant to flow.



3. Tip Vibration – Power setting (Amplitude). Touching the power adjusting spot on the top of the Control Box (2) will alter the amplitude (Power setting). Power adjustments should only be made with the handpiece control ring in the 'OFF' position.
4. Scaling in General. The unique circular movement of the 42-12 tip provides a gentle, but highly efficient means of scaling a tooth. The circular motion with the high frequency and small amplitude, produces a very smooth result without hammering or scratching the tooth.

## **F. OPERATING TECHNIQUE**

It is important to use the 42-12 correctly to benefit from its unique features.

1. Always use the tip parallel to the tooth, with the side of the tip on the tooth.



2. Do not use the tip as a pick or chisel at right angles to the tooth, as this will scratch the enamel. Animal enamel is considerably thinner than human tooth enamel, and therefore more prone to damage.
3. Apply lightly to the tooth surface, sweeping back and forth as though one was painting the teeth with a paintbrush. Keep the tip moving. Use the tip to probe deep pockets, but always parallel to the tooth surface.
4. As the tip operates in a 360° circular motion, easy access is guaranteed, as all surfaces are active and there are no dead zones.
5. The circular motion actually brushes the teeth, rather than “hammering” them, and produces more of a polishing effect, rather than a scratching effect, as with other units.

**NOTE:** Increased pressure will not improve efficiency or the time taken to complete the procedure.

6. Coolant flow control (11). Adjust the spray to achieve a fine mist. The use of CLS is recommended in animals. Correct dilution is important (Read Manufacturer’s Recommendations) as over dilution may cause the chlorhexadine to deposit small crystals.

**NOTE:** The use of any other solution other than CLS or distilled water in the 42-12 will void all warranties. CLS has been used successfully in air driven Dental Units and ultrasonic scalers since 1993.

## 7. Changing Scaler Tips.

- a. Hold the scaler tip by the metal collar, and twist out of the handpiece. A twisting motion is recommended as the best way of removing and inserting scaler tip inserts through the internal handpiece sealing O ring.
- b. Shake the Handpiece to remove coolant liquid.
- c. Insert new scaler tip insert with a twisting motion until fully seated.

**CAUTION:** Avoid contact with temporary restorations, or porcelain crowns. Avoid contact with the tongue or mucosa with the un-cooled part of the tip.

8. Life expectancy of the scaler Tip. As the tip wears, due to use, the efficiency will be reduced. If performance is reduced, check that the Ferrite Rod (7) is tight and that no foreign matter is in the handpiece. A loose ferrite rod is the most common cause of poor tip efficiency. Change the ferrite rod to see if an improvement can be gained – If no improvement is found, a new tip is indicated. Tip wear can be reduced by the use of CLS, as it contains glycerin, which will help lubricate the tip and reduce tip wear.

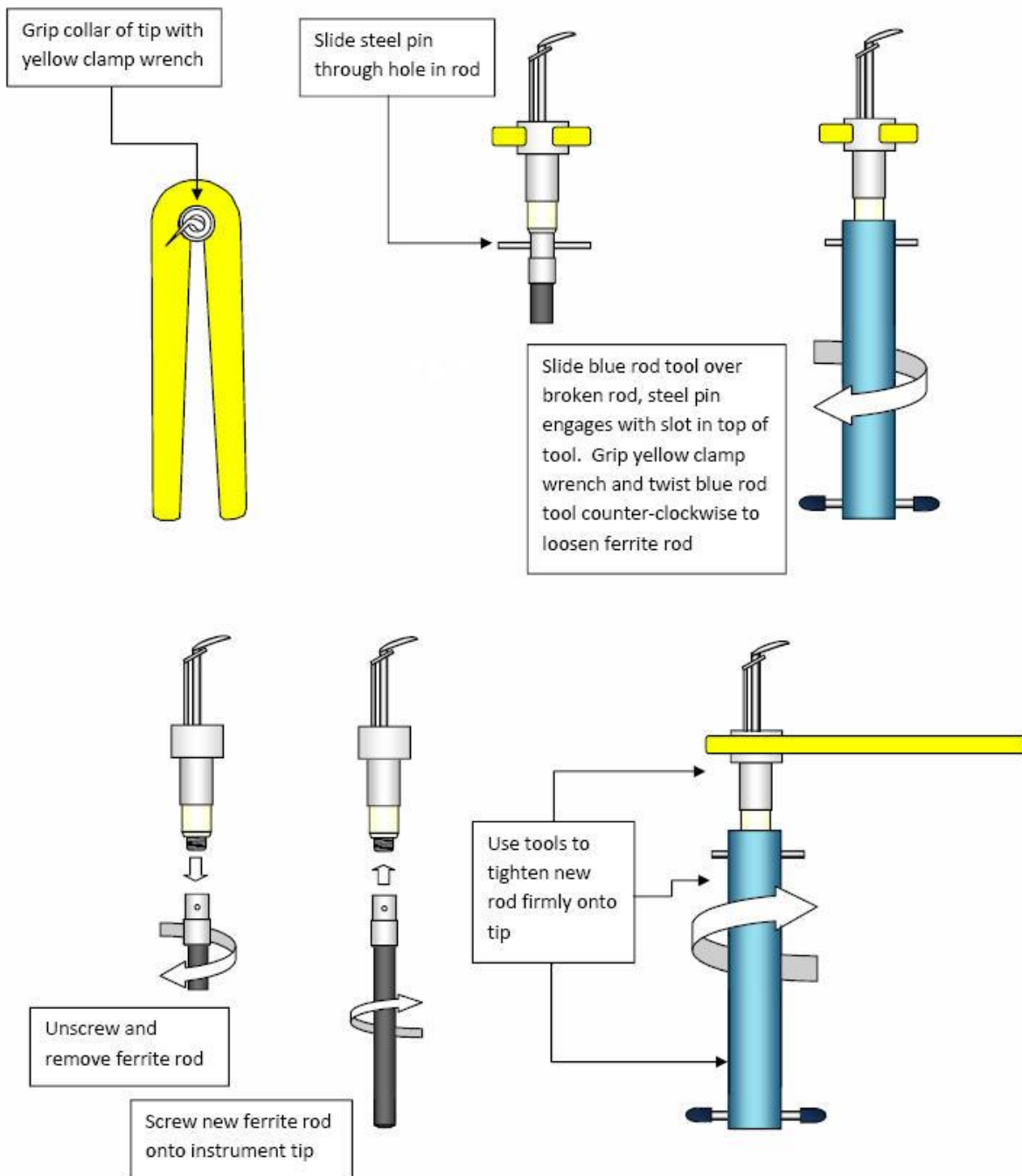
Instrument tips that are bent, or scratched should be discarded immediately.

Do not think the “jack hammer” of other scalers improves efficiency. The 42-12 operates by using ultrasonic frequency, along with mechanical movement to remove and breakdown calculi. The Ultrasonic sound will also destroy the cell wall of bacteria within a 1 to 2mm proximity, promoting improved dental mouth hygiene in your patients, particularly in deep sub-gingival pockets. The use of CLS with its chlorhexadine will further improve the disinfecting of such gingival pockets.

## G. HANDLING & CARE

1. The scaler tip inserts – The shape of the tip is vital to the efficiency of the circular motion and ultrasonic effect. **DO NOT SHARPEN, BEND OR RE-SHAPE THE TIP.**

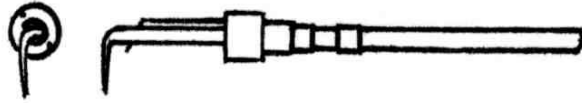
### Ferrite Rod Changing Instructions





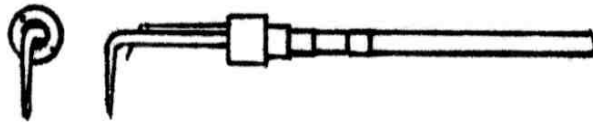
## **H. INSTRUMENT TIPS**

1. Universal Tip AUS #O6840 US #O0809 **(supplied with 42-12)**



For removal of Supra and Sub-gingival calculi in all areas. For general scaling with moderate calculi.

2. Perio Tip. AUS #O6850 US #O0806 **(supplied with 42-12)**



Removes Supra and sub-gingival calculi in all areas. Particularly useful in sub-gingival pockets, as deep as 13mm. The use of CLS will reduce the pathogens and pocket depth. Use the tip in a similar fashion to a periodontal probe, and keep the tip moving with short strokes at all times.

Other Shaped tips available, please contact iM3.

## I. TROUBLE SHOOTING

	Symptom	Cause	Remedy	Part Code
1	Coolant leaking between handpiece and connectors	Defective O ring in Handpiece connector	Replace O Ring	O6890 (US O4231)
2	Coolant leak between H'piece and scaler tip insert	Defective O ring in Handpiece	Replace O Ring	O6890 (US O4232)
3.	Coolant in interior of Handpiece	Defective O Ring in Handpiece	Replace O Ring	O6890 (US O4233)
4.	Scaler tip vibrating, but no coolant spray	Coolant line blocked. Flow control valve closed	Check Filter – Open flow control valve	W0530 (US P7235) I6780 (US P7056)
5	Poor or no tip vibration	Water in Handpiece  Ferrite rod <u>loose</u> Broken Ferrite Rod Tip worn out	Empty Handpiece – if re-occurs, replace Handpiece. Tighten Ferrite Rod Replace Ferrite Rod Replace tip	O6900 (US O1002) See Pg 7 O6870 (US O1200) See Pg 8
6.	No Power	Blown fuse	Replace Fuse Slow Blow 400mA – 250 v	O6891 (US O2153)

## J. CLEANING & STERILISING

1. Scaler tip insert (6), can be cleaned by chemical or steam autoclaving. Maximum 180° C/ 350°F.
2. Handpiece (4). **DO NOT Soak the Handpiece in liquid.** Clean by wiping with alcohol, soap or water based disinfectant solutions.

**DO NOT USE GLUTARALDEHYDE, FORMALIN SOLUTIONS** or any products containing aggressive chemicals. Do not put in ultrasonic cleaners, or soak in liquid chemicals.

Steam sterilise the Handpiece at a maximum temperature of 121°C / 250°F (Rubber Pack Cycle). iM3 recommends autoclaving between patients.

3. Control Box & Cord (1) and (3)

Wipe with alcohol, soap or water based disinfectant solution. Solutions suitable for sanitising telephones are generally satisfactory.

## **K. SERVICE & REPAIR**

Do not attempt to open the control box (1). Service and repair can only be carried out by an approved iM3 Dealer.

The equipment must be used strictly in accordance with the Manufacturer's Guidelines. Any alteration or repair carried out without the authority of iM3 will void all warranties.

Contact your authorised dealer or:

Service Centres  
iM3 Inc  
12119 NE 99<sup>th</sup> Street  
Suite 2060  
VANCOUVER WA U.S.A. 98682  
Telephone: (360) 254 2981 Facsimile: (360) 254 2940

iM3 Pty Limited  
9/31-33 Chaplin Drive  
LANE COVE NSW Australia 2066  
Telephone: (61) 2 9420 5766 Facsimile: (61) 2 9420 5677

## **L. TECHNICAL DATA**

**Product Name:** iM3 42-12 Veterinary Dental Scaler

**Mains Connection:**

**Type:** Single phase with protective grounding.

**Mains voltage:** 100 to 240 Vac (at option)

**Mains frequency:** 50/60 Hz

**Primary Fuses:** 400 mA 250 V slow blow

**Classification:** Class 1, type B (IEC 601-1)

**Max. power consumption:** 20W (20VA)

**Water supply pressure:** 1 to 3 bar (15-42 PSI)

**Manufacturer:** iM3 Pty Ltd  
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**M. WARRANTY**

Twelve (12) months replacement of parts that are found to be defective. This does not include broken stacks (inserts), or broken handpiece tips. Freight to and from Repair Centre will be the Owner's responsibility.

The iM3 42-12 has been specifically created and designed by Philip Bloom of iM3 Australia, exclusively for Veterinary Dental use. No other ultrasonic dental scaler meets the specific needs of the Veterinary Dental Professional as does the 42-12.

Graphics, industrial design and Engineering Drawings were produced by iM3 Australia.

iM3 the company meeting the Veterinary Professionals Dental needs. The only company that designs, manufactures, sells and services its own equipment, that's how we maintain our reputation for quality, reliability and customer satisfaction, and we're proud of that so we work hard to maintain that reputation. Thank you

Manufactured By  
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